

Claim Listing Pursuant to 37 C.F.R. § 1.121

1. (Previously canceled) A method for inhibiting proliferation of astrocytes, comprising contacting astrocytes with an amount of CD81 effective to inhibit proliferation of astrocytes.
2. (Previously canceled) The method of Claim 1, wherein astrocytes are contacted with CD81 by introducing CD81 protein into membranes of the astrocytes.
3. (Previously canceled) The method of Claim 1, wherein astrocytes are contacted with CD81 by introducing into the astrocytes a [deoxy] nucleic acid encoding CD81, in a manner permitting expression of CD81.
4. (Previously canceled) The method of Claim 3, wherein the nucleic acid is introduced by a method selected from the group consisting of electroporation, DEAE Dextran transfection, calcium phosphate transfection, cationic liposome fusion, protoplast fusion, creation of an in vivo electrical field, DNA-coated microprojectile bombardment, injection with recombinant replication-defective viruses, homologous recombination, in vivo gene therapy, ex vivo gene therapy, viral vectors, and naked DNA transfer.
5. (Previously canceled) The method of Claim 1, wherein the contacting is effected in vivo.



6. (Previously canceled) The method of Claim 5, wherein the contacting is effected in vivo in a mammal.

7. (Previously canceled) The method of Claim 6, wherein the mammal is a human.

8. (Previously canceled) The method of Claim 7, wherein the human has a condition associated with a defect in astrocyte proliferation.

9. (Previously canceled) The method of Claim 8, wherein the defect in astrocyte proliferation is astrogliosis.

10. (Previously canceled) The method of Claim 7, wherein astrocytes are contacted with CD81 by introducing CD81 protein into membranes of the astrocytes.

11. (Previously canceled) The method of Claim 7, wherein astrocytes are contacted with CD81 by introducing into the astrocytes a nucleic acid encoding CD81, in a manner permitting expression of CD81.

12. (Previously canceled) The method of Claim 11, wherein the nucleic acid is introduced by a method selected from the group consisting of electroporation, DEAE Dextran transfection, calcium phosphate transfection, cationic liposome fusion, protoplast fusion, creation of an in vivo electrical field, DNA-coated microprojectile bombardment, injection with recombinant replication-defective viruses, homologous recombination, in vivo gene therapy,



ex vivo gene therapy, viral vectors, and naked DNA transfer.

13. (Previously canceled) A method for inhibiting proliferation of astrocytic tumor cells, comprising contacting astrocytic tumor cells with an amount of CD81 effective to inhibit proliferation of astrocytic tumor cells.

14. (Previously canceled) The method of Claim 13, wherein astrocytic tumor cells are contacted with CD81 by introducing CD81 protein into membranes of the astrocytic tumor cells.

15. (Previously canceled) The method of Claim 13, wherein astrocytic tumor cells are contacted with CD81 by introducing into the astrocytic tumor cells a nucleic acid encoding CD81, in a manner permitting expression of CD81.

16. (Previously canceled) The method of Claim 15, wherein the nucleic acid is introduced by a method selected from the group consisting of electroporation, DEAE Dextran transfection, calcium phosphate transfection, cationic liposome fusion, protoplast fusion, creation of an in vivo electrical field, DNA-coated microprojectile bombardment, injection with recombinant replication-defective viruses, homologous recombination, in vivo gene therapy, ex vivo gene therapy, viral vectors, and naked DNA transfer.

17. (Previously canceled) The method of Claim 3, wherein the contacting is effected in vivo.



18. (Previously canceled) The method of Claim 17, wherein the contacting is effected *in vivo* in a mammal.
19. The method of Claim 18, wherein the mammal is a human.
20. (Previously canceled) The method of Claim 19, wherein the human has a condition associated with proliferation of astrocytic tumor cells.
21. (Previously canceled) The method of Claim 20, wherein the condition associated with proliferation of astrocytic tumor cells is an astrocytoma.
22. (Previously canceled) The method of Claim 19, wherein astrocytic tumor cells are contacted with CD81 by introducing CD81 protein into membranes of the astrocytic tumor cells.
23. (Previously canceled) The method of Claim 19, wherein astrocytic tumor cells are contacted with CD81 by introducing into the astrocytic tumor cells a nucleic acid encoding CD81, in a manner permitting expression of CD81.
24. (Previously canceled) The method of Claim 23, wherein the nucleic acid is introduced by a method selected from the group consisting of electroporation, DEAE Dextran transfection, calcium phosphate transfection, cationic liposome fusion, protoplast fusion, creation of an *in vivo* electrical field, DNA-coated microprojectile bombardment, injection with recombinant replication-defective viruses, homologous recombination, *in*



vivo gene therapy, ex vivo gene therapy, viral vectors, and naked DNA transfer.

25. (Previously canceled) A method for treating a condition associated with a defect in astrocyte proliferation in a subject in need of treatment, comprising administering to the subject an amount of CD81 effective to treat the condition associated with a defect in astrocyte proliferation.

26. (Previously canceled) The method of Claim 25, wherein the condition associated with a defect in astrocyte proliferation is astrocytosis.

27. (Previously canceled) The method of Claim 25, wherein CD81 is administered orally, parenterally, or transdermally.

28. (Previously canceled) A method for treating a condition associated with proliferation of astrocytic tumor cells in a subject in need of treatment, comprising administering to the subject an amount of CD81 effective to treat the condition associated with proliferation of astrocytic tumor cells.

29. (Previously canceled) The method of Claim 28, wherein the condition associated with proliferation of astrocytic tumor cells is an astrocytoma.

30. (Previously canceled) The method of Claim 28, wherein CD81 is administered orally, parenterally, or transdermally.

31. (Previously presented) A method for determining whether a subject



has an astrocytoma, the method comprising assaying for CD81 expression a diagnostic sample of cells of astrocytic lineage of the subject, wherein no detection of expression of CD81 in cells of astrocytic lineage of the subject is diagnostic of an astrocytoma.

32. (Previously presented) The method of claim 31, wherein the diagnostic sample of cells of astrocytic lineage of the subject is assayed *in vitro*.

33. (Currently amended) A method for assessing the efficacy of astrocytoma therapy in a subject who has undergone or is undergoing treatment for an astrocytoma, the method comprising assaying for CD81 expression a diagnostic sample of cells of astrocytic tumor cells of the subject, wherein no detection of expression of CD81 in astrocytic tumor cells of the subject is indicative of unsuccessful astrocytoma therapy.

34. (Currently amended) The method of claim 33, wherein the diagnostic sample of cells of astrocytic tumor cells lineage of the subject is assayed *in vitro*.

35. (Previously presented) The method of claim 31, wherein the subject is a mammal.

36. (Previously presented) The method of claim 31, wherein the subject is a human.



37. (Previously presented) The method of claim 31, wherein CD81 expression is assayed using an immunological technique.
38. (Previously presented) The method of claim 37, wherein the immunological technique utilizes an antibody, an Fab fragment, or an F(ab'), fragment.
39. (Previously presented) The method of claim 38, wherein the antibody, Fab fragment, or F(ab'), fragment is monoclonal.
40. (Previously presented) The method of claim 38, wherein the antibody, Fab fragment, or F(ab'), fragment is polyclonal.
41. (Previously presented) The method of claim 38, wherein the antibody, Fab fragment, or F(ab'); fragment is labeled with a detectable marker.
42. (Previously presented) The method of claim 41, wherein the detectable marker is a nonradioactive or a fluorescent marker.
43. (Previously presented) The method of claim 41, wherein the detectable marker is a radioactive marker.
44. (Previously presented) The method of claim 31, wherein CD81 expression is assayed using hybridization analysis.
45. (Previously presented) The method of claim 44, wherein the hybridization analysis is a northern blot analysis for CD81 mRNA in mRNA extracted from



cells of astrocytic lineage.

46. (Previously presented) The method of claim 44, wherein the hybridization analysis utilizes an RNA probe.

47. (Previously presented) The method of claim 44, wherein the hybridization analysis utilizes a DNA probe.

48. (Previously presented) The method of claim 32, wherein CD81 expression is assayed using RT-PCR.

49. (Previously presented) The method of claim 31, wherein CD81 expression is assayed using fluorescence imaging techniques.

50 (Previously presented) The method of claim 31, wherein CD81 expression is assayed using radiation detection.

51. (Previously presented) The method of claim 32, wherein CD81 expression is assayed using immunocytofluoremetry.

52. (Previously presented) The method of claim 33, wherein the subject is a human.

53. (Previously presented) The method of claim 33, wherein CD81 expression is assayed using an immunological technique.



54. (Previously presented) The method of claim 53, wherein the immunological technique utilizes an antibody, an Fab fragment, or an F(ab')₂ fragment.
55. (Previously presented) The method of claim 54, wherein the antibody, Fab fragment, or F(ab'), fragment is monoclonal.
56. (Previously presented) The method of claim 54, wherein the antibody, Fab fragment, or F(ab'), fragment is labeled with a detectable marker.
57. (Previously presented) The method of claim 33, wherein CD81 expression is assayed using hybridization analysis.
58. (Previously presented) The method of claim 57, wherein the hybridization analysis is a northern blot analysis for CD81 mRNA in mRNA extracted from cells of astrocytic lineage.
59. (Previously presented) The method of claim 57, wherein the hybridization analysis utilizes an RNA probe.
60. (Previously presented) The method of claim 57, wherein the hybridization analysis utilizes a DNA probe.
61. (Previously presented) The method of claim 34, wherein CD81 expression is assayed using RT-PCR.



62. (Previously presented) The method of claim 33, wherein CD81 expression is assayed using fluorescence imaging techniques.

63. (Previously presented) The method of claim 33, wherein CD81 expression is assayed using radiation detection.

64. (Previously presented) The method of claim 34, wherein CD81 expression is assayed using immunocytofluorometry.

